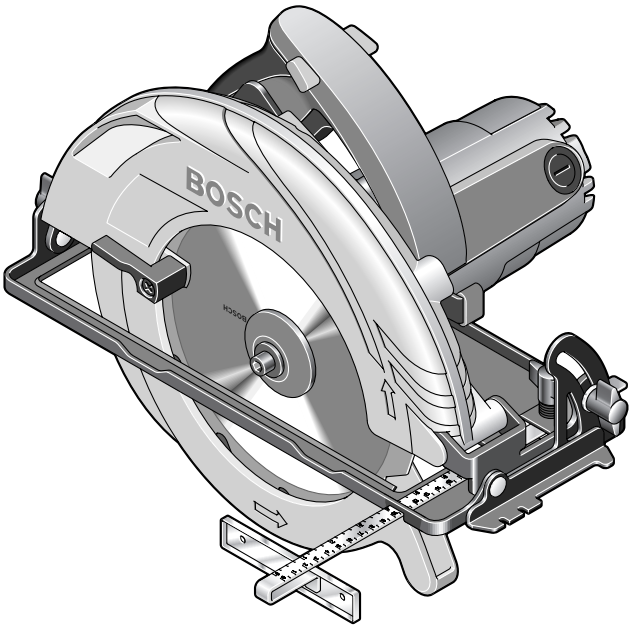
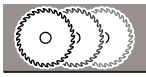
1 609 929 H62.book Seite 1 Freitag, 20. Januar 2006 8:31 08

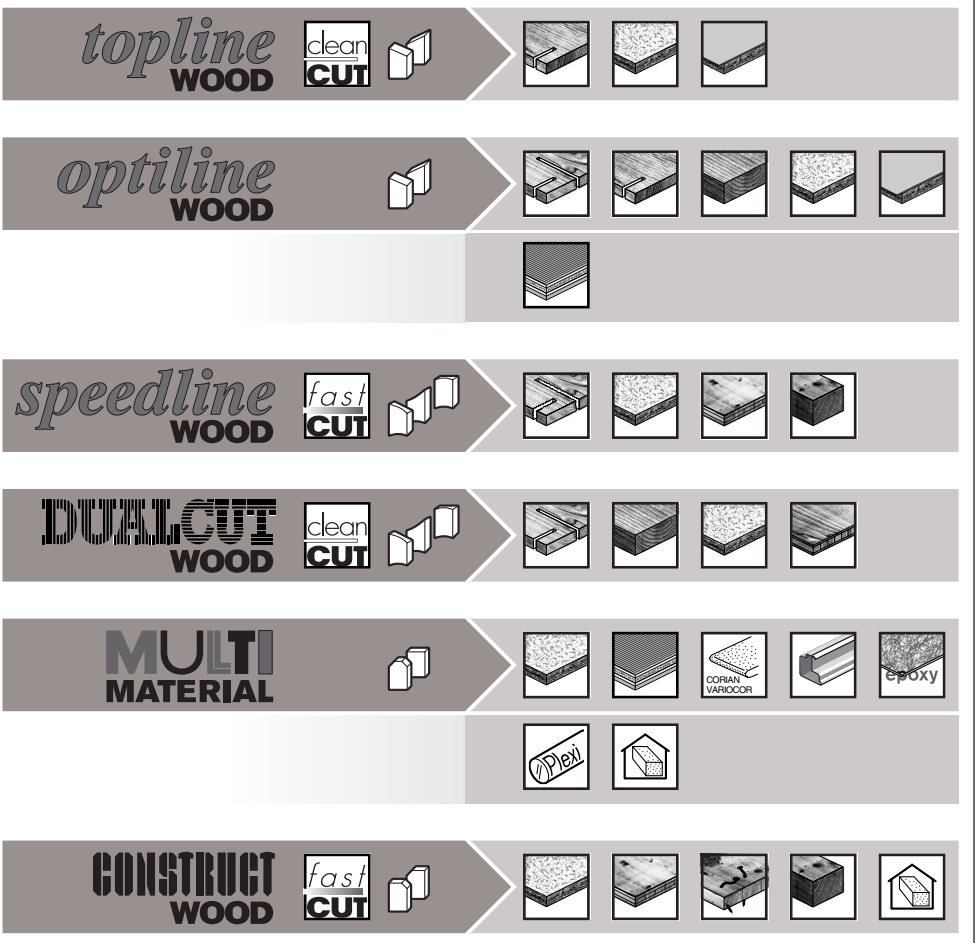
GKS 190
PROFESSIONAL

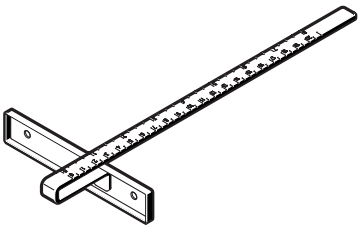
BOSCH

Operating Instructions
操作指南

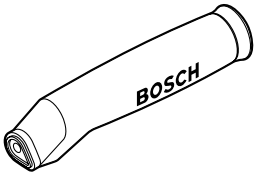




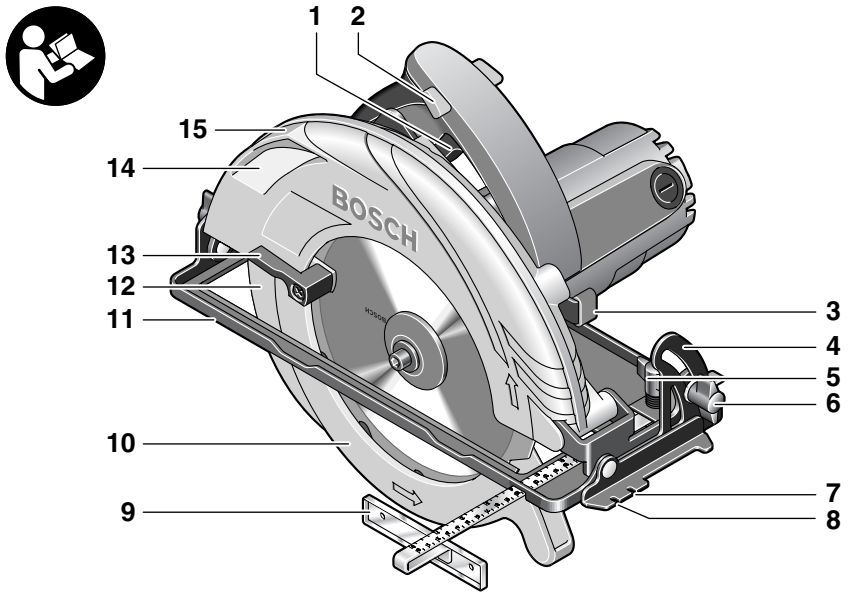

topline
WOOD
clean
CUT
optiline
WOOD
speedline
WOOD
fast
CUT
DUALCUT
WOOD
clean
CUT
MULTI
MATERIAL
CORIAN
VARIOCOR
epoxy
Plexi
CONSTRUCT
WOOD
fast
CUT



2 608 000 322

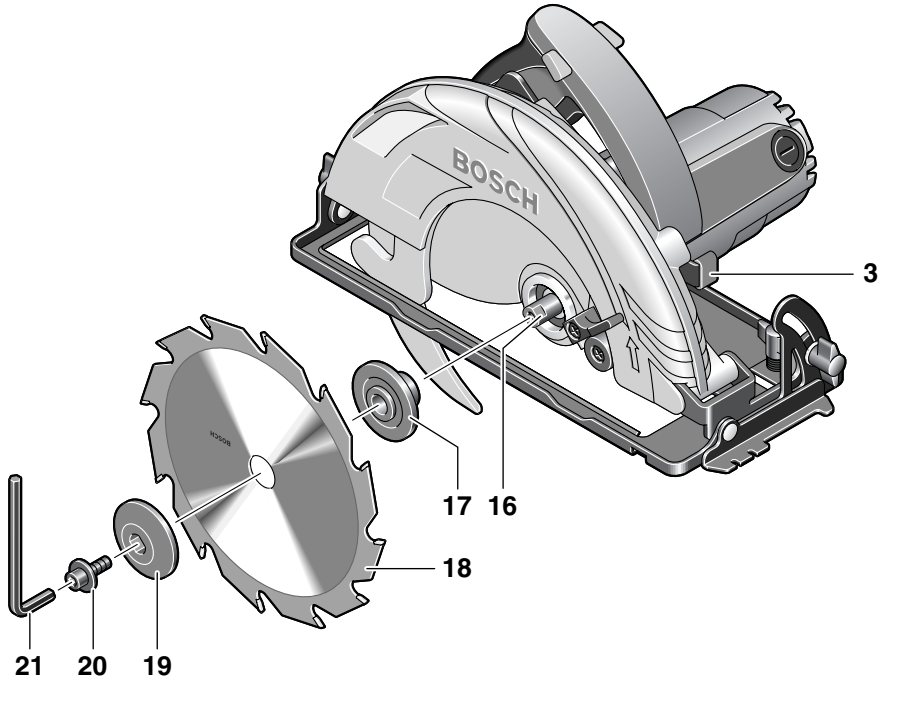


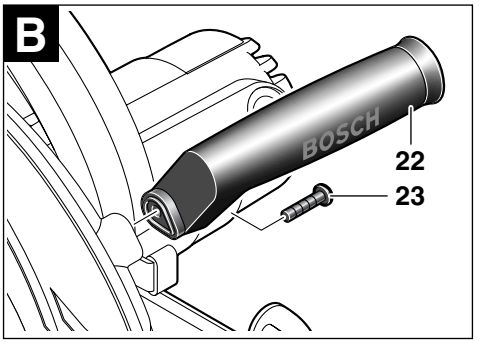
2 608 000 324

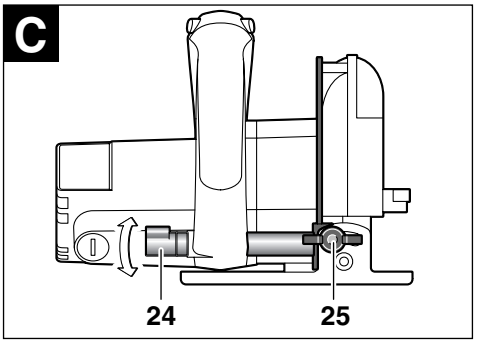


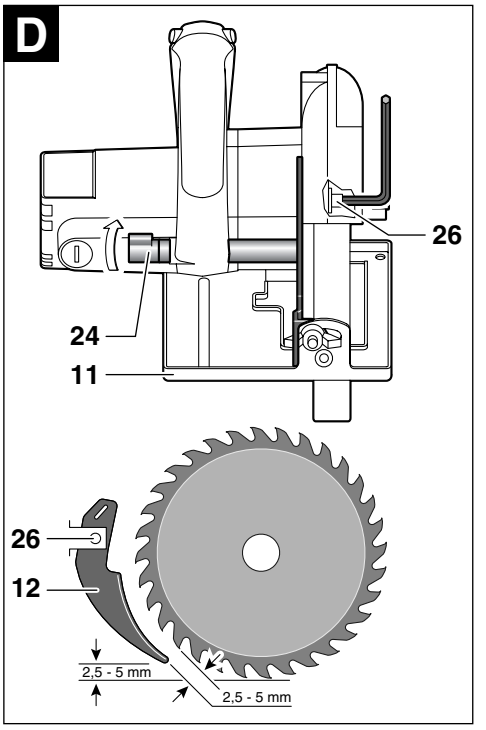
3 601 E23 Y..

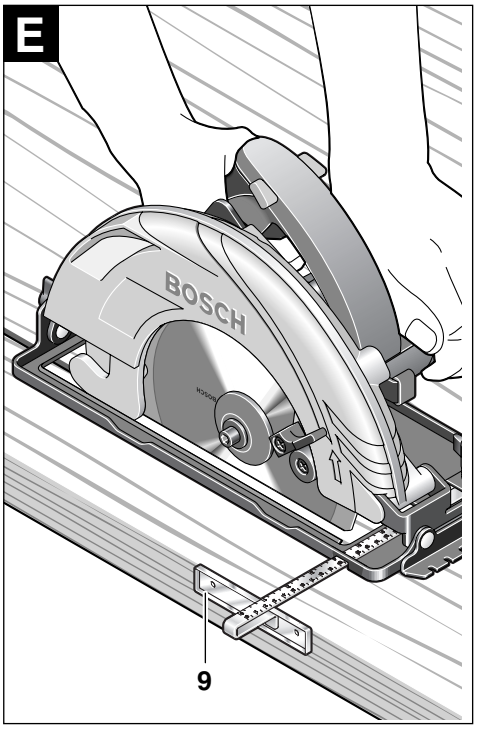
A

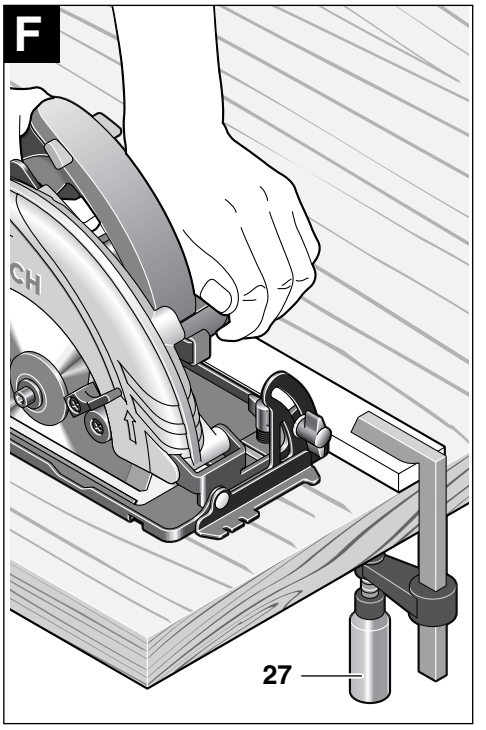



B
BOSCH
22
23


C
24
25


D
26
24
11
26
12
2,5 - 5 mm
2,5 - 5 mm


E
BOSCH
9


F
27

1 609 929 H62.book Seite 1 Freitag, 20. Januar 2006 8:31 08

General Power Tool Safety Warnings

⚠WARNING **Read all safety warnings and all instructions.** Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The term “power tool” in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

1) Work area safety

a) **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.

b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.

c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

2) Electrical safety

a) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce the risk of electric shock.

b) **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.

c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.

d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.

e) **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.

f) **If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) or an earth leakage circuit breaker (ELCB).** Use of a GFCI or an ELCB reduces the risk of electric shock.

3) Personal safety

a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.

b) **Use personal protective equipment. Always wear eye protection.** Protective equipment such as dusk mask, non-skid safety shoes, hard hat or hearing protection used for appropriate conditions will reduce personal injuries.

c) **Prevent unintentional starting. Ensure the switch is in the off position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.

d) **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key that is left attached to a rotating part of the power tool may result in personal injury.

e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.

f) **Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.

g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.

4) Power tool use and care

a) **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it is designed.

b) **Do not use the power tool if the switch does not turn it on or off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.

c) **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.

d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.

e) **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.

f) **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

g) **Use the power tool, accessories, tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.

5) Battery tool use and care

a) **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.

b) **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.

c) **When battery pack is not in use, keep it away from other metal objects, like paper clips, coins, keys, nails, screws or other small metal objects, that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.

d) **Under abusive conditions, liquid may be ejected from the battery; avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.

6) Service

a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

For Your Safety

Read all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Additionally, the general safety instructions either in the enclosed booklet or those added in the center of these operating instructions must be observed.

SAVE THESE INSTRUCTIONS.

- **When working with the power tool, always hold it firmly with both hands and provide for a secure stance.** Both hands guide a power tool more securely.
- **Secure the workpiece.** A workpiece clamped with clamping devices or in a vice is held more secure than by hand.
- **Do not work materials containing asbestos.** Asbestos is considered carcinogenic.
- **Take protective measures when dust can develop during working that is harmful to one's health, combustible or explosive.** Example: Some dusts are regarded as carcinogenic. Wear a dust mask and work with dust/chip extraction when connectable.
- **Always wait until the tool has come to a complete stop before placing it down.** The tool insert can jam and lead to loss of control over the power tool.
- **Do not use a power tool with a damaged power cord. Do not touch the damaged cord and pull the power plug when the cord is damaged while working.** Damaged cords increase the risk of an electric shock.
- **Connect power tools that are used in the open via a ground fault circuit interrupter.**
- **DANGER: Keep hands away from the cutting area and the blade. Keep your second hand on the auxiliary handle or the motor housing.** If both hands are holding the saw, they cannot be cut by the saw blade.
- **Do not reach underneath the work.** The blade guard cannot protect you from the blade below the work.

- **Adjust the depth of cut to the thickness of the work.** Less than a full tooth of the blade teeth should be visible below the work.
- **Never hold the piece being cut in your hands or across your leg. Secure the work on a stable support.** It is important to support the work properly to minimize body exposure, blade binding, or loss of control.
- **Hold the power tool only by the insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own power cord.** Contact with a "live" wire will also make exposed metal parts of the power tool "live" and shock the operator.
- **When ripping always use a rip fence or straight edge guide.** This improves the accuracy of cut and reduces the chance of blade binding.
- **Always use saw blades with correct size and shape (diamond versus round) of arbor holes.** Blades that do not match the mounting hardware of the saw will run eccentrically, causing loss of control.
- **Never use damaged or incorrect blade washers or bolts.** The blade washers and bolts were specially designed for your saw, for optimum performance and safety of operation.
- **Causes and operator prevention of kickback:**
  – Kickback is a sudden reaction to a pinched, bound or misaligned saw blade, causing an uncontrolled saw to lift up and out of the work toward the operator.
  – When the blade is pinched or bound tightly by the kerf closing down, the blade stalls and the motor reaction drives the tool rapidly back toward the operator.
  – If the blade becomes twisted or misaligned in the cut, the teeth at the back edge of the blade can dig into the top surface of the wood causing the blade to climb out of the kerf and jump back toward the operator.
  Kickback is the result of saw misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.
- **Maintain a firm grip with both hands on the saw and position your arms to resist kickback forces. Always position yourself to the side of the saw blade, so that your body is never in line with the saw blade.** Kickback can cause the saw to jump backwards, but kickback forces can be controlled by the operator if proper precautions are taken.
- **In case the saw blade jams or if the sawing is discontinued, switch the saw off and hold it motionless in the material until the blade comes to a complete stop. Never attempt to remove the saw from the work or pull the saw backward while the blade is in motion or kickback may occur.** Investigate and take corrective action to eliminate the cause of the blade binding.
- **When restarting a saw in the work, center the saw blade in the kerf and check that the saw teeth are not engaged into the material.** If the saw blade is binding, it may travel up from the work or kick back as the saw is restarted.
- **Support large panels to reduce the risk of blade pinching and kickback.** Large panels tend to sag under their own weight. Supports must be placed under the panel on both sides, near the line of cut and near the edge of the panel.
- **Do not use dull or damaged saw blades.** Unsharpened or improperly set blades produce narrow kerf causing excessive friction, blade binding and kickback.
- **Before sawing, tighten the blade depth and cutting angle adjustments.** If the adjustments change during cutting, the saw blade can jam and kickback can occur.
- **Use extra caution when making "plunge cuts" into existing walls or other blind areas.** The protruding saw blade, when running into hidden objects, can be jammed and cause kickback.
- **Check the lower guard for proper closing before each use. Do not operate the saw if the lower guard does not move freely and close instantly. Never clamp or tie the lower guard into the open position.** If the saw is accidentally dropped, the lower guard may be bent. Raise the lower guard with the retracting handle and make sure it moves freely and does not touch the blade or any other part, in all angles and depths of cut.
- **Check the operation of the lower guard spring. If the guard and the spring are not operating properly, they must be serviced before use.** The lower guard may operate sluggishly due to damaged parts, gummy deposits or a build-up of debris.

- **The lower guard should be retracted manually only for special cuts such as "plunge cuts" and "compound cuts". Raise the lower guard with the retracting handle and as soon as blade enters the material, the lower guard must be released.** For all other sawing, the lower guard must operate automatically.
- **Always observe that the lower guard is covering the saw blade before placing down the saw on a workbench or the floor.** An unprotected, coasting blade will cause the saw to travel backwards, cutting whatever is in its path. Be aware of the run-on period of the saw.
- **Use the appropriate riving knife for the saw blade being used.** The riving knife must be wider than the thickness of the blade back, but thinner than the kerf width of the saw blade.
- **Adjust the riving knife as described in the operating instructions.** Incorrect width, position and alignment can be the cause that the riving knife does not effectively prevent kickback.
- **Always use the riving knife except when performing plunge cuts.** After the plunge cut, mount the riving knife again. The riving knife interferes when performing plunge cuts and can lead to kickback.
- **In order for the riving knife to be effective, it must be located in the cut.** For short cuts, the riving knife is ineffective for the prevention of kickback.
- **Do not operate the saw with a bent riving knife.** Even a minor malfunction can lead to sluggish retraction of the guard.
- **Do not reach into the saw dust ejector with your hands.** They could be injured by rotating parts.
- **Do not work overhead with the saw.** In this manner you do not have sufficient control over the power tool.
- **Use appropriate detectors to determine if utility lines are hidden in the work area or call the local utility company for assistance.**
  Contact with electric lines can lead to fire and electric shock. Damaging a gas line can lead to explosion. Penetrating a water line causes property damage or may cause an electric shock.
- **Do not operate the power tool stationary.** It is not designed for operation with a saw table.
- **Do not use high speed steel (HSS) saw blades.** Such saw blades can easily break.

Tool Specifications

Circular Saw		**GKS 190 PROFESSIONAL**
Article number		3 601 E23 Y..
Rated power input	[W]	1 050
No-load speed	[rpm]	5 000
Riving knife thickness, max.	[mm]	2.0
Cutting depth at 90°, max.	[mm]	65
Cutting depth at 45°, max.	[mm]	44
Spindle lock		●
Footplate	[mm]	138 x 305
Weight according to EPTA-Procedure 01/2003	[kg]	4.5
Safety class		⧈ / II
Saw blade dia. (max.)	[mm]	190
Saw blade dia. (min.)	[mm]	185
Blade thickness, max.	[mm]	1.6
Kerf, max.	[mm]	2.5
Kerf, min.	[mm]	2.2
Mounting hole	[mm]	20

Please observe the article number on the type plate of your machine. The trade names of the individual machines may vary.

The values given are valid for nominal voltages [U] of 220/230 V. However, these values can vary for lower voltages and models made for specific countries.

Tool Elements

The numbering of the tool elements refers to the representation of the tool on the graphics page.

While reading the operating instructions, unfold the graphics page of the tool and leave it open.

1 On/Off switch
2 Lock-off button for On/Off switch
3 Spindle locking button
4 Cutting angle scale
5 Wing bolt for parallel guide
6 Wing bolt for cutting angle setting
7 Cutting mark, 45°
8 Cutting mark, 0°
9 Rip fence
10 Retracting blade guard
11 Footplate
12 Riving knife
13 Adjustment lever for retracting blade guard
14 Sawdust ejector
15 Blade guard
16 Drive spindle
17 Mounting flange
18 Saw blade*
19 Clamping flange
20 Clamping bolt with washer
21 Hex key
22 Auxiliary handle*
23 Screw for attachment of the auxiliary handle*
24 Wing bolt for cutting depth setting
25 Wing bolt for cutting angle preselection
26 Riving knife attachment
27 Set of screw clamps**

* **Not all of the illustrated or described accessories are included as standard delivery.**

** Commercially available (not included in the delivered items)

Intended Use

The tool is intended for cutting wood lengthways and crossways in straight lines and at bevel angles of up to 45° on a firm surface.

Before Use

■ Before any work on the tool itself, pull the power plug.

Mounting the Auxiliary Handle (see figure B)

Mount the auxiliary handle **22** to the blade guard **15** with the screw **23**.

Checking the Adjustment of the Riving Knife (see figure D)

The adjustment is carried out at minimal cutting depth, as described in the section “Adjusting the Cutting Depth”.

It is best to place the tool on the face side of the blade guard.

Loosen the screw **26**, adjust the riving knife **12** and retighten the screw. Observe the values given in the figure.

Disassembly/Assembly of the Riving Knife

For disassembly of the riving knife **12**, unscrew the screw **26** and remove the riving knife.

For assembly, insert the riving knife **12** and tighten it with the screw **26**. Afterwards, check the adjustment of the riving knife as described previously.

Adjusting the Cutting Depth (see figure C)

■ Before any work on the tool itself, pull the power plug.

☞ To achieve an optimum cut, the saw blade must not protrude the material by more than **3 mm** (maximum).

To adjust the depth of cut, loosen wing bolt **24** and raise the saw from the footplate **11** or lower it towards the footplate, respectively:

Raise ➡ for smaller cutting depths

Lower ➡ for greater cutting depths

Retighten the winged screw **24**.

Adjusting the Cutting Angle

■ Before any work on the tool itself, pull the power plug.

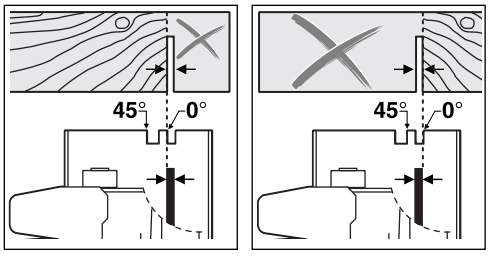
Loosen the wing bolts **6** and **25**.

It is best to place the tool on the face side of the blade guard.

Tilt the footplate away from the tool until the required cutting angle is adjusted on the cutting angle scale **4**.

Tighten the wing bolts again.

Cutting Marks



The cutting mark 0° (**8**) indicates the position of the saw blade for right-angled cuts.

The cutting mark 45° (**7**) indicates the position of the saw blade for 45° cuts.

Both cutting marks include the width of the saw blade. Always guide the saw blade off of the drawn-up cutting line so that the desired measure is not reduced by the width of the saw blade. For this, choose the corresponding notch side of the cutting mark 0° (**8**) or 45° (**7**) as shown in the illustration.

Note: It is best to carry out a trial cut.

Initial Operation

Always use the correct voltage: The voltage of the power source must agree with the values on the nameplate of the tool.

Switching On and Off

For **starting operation** of the tool, actuate the lock-off button **2 first**, and then press and hold the On/Off switch **1 afterwards**.

To **switch off** the tool, release the On/Off switch **1**.

⚠ **For safety reasons the On/Off switch of the tool cannot be locked; it must remain pressed during the entire operation.**

Changing the Tool (see figure A)

■ Before any work on the tool itself, pull the power plug.

■ **Wear protective gloves when mounting the saw blade.** Danger of injury when touching the saw blade.

■ **Only use saw blades that correspond with the characteristic data given in the operating instructions.**

■ **Do not under any circumstances use grinding discs as the cutting tool.**

For changing the cutting tool, it is best to place the tool on the face side of the motor housing.

Removing

Press the spindle lock button **3** and keep it pressed.

■ The spindle lock button **3** may be actuated only when the saw blade is at a standstill.

Unscrew clamping bolt **20** with the hex key **21**.

Remove clamping flange **19**.

Tilt back the retracting blade guard **10** and hold firmly.

Remove the saw blade.

Mounting

Clean the saw blade and all the clamping parts to be assembled.

Tilt back the retracting blade guard **10** and hold firmly.

Place the saw blade onto the mounting flange **17**.

Assemble the clamping bolt **20** and the clamping flange **19**.

Tighten the clamping bolt **20** with the hex key **21**. Tightening torque: 6–9 Nm; equivalent to hand-tight plus $^1/_4$ turn.

⚠ Take care that the mounting positions of the mounting flange **17** and clamping flange **19** are correct.

When mounting: Ensure that the cutting direction of the teeth (direction of arrow on saw blade) and the direction-of-rotation arrow on the blade guard match.

Operating Instructions

■ Protect saw blades against impact and shock.

Excessive feed significantly reduces the performance capability of the tool and reduces the service life of the saw blade.

Sawing performance and cutting quality depend essentially on the condition and the tooth form of the saw blade. Therefore, use only sharp saw blades that are suited for the material to be worked.

The correct selection of the saw blade depends on the type and quality of the wood and whether length or cross cuts are required.

☞ When cutting spruce lengthways, long spiral chips are formed.

Beech and oak dusts are especially detrimental to health. Therefore, work only with dust extraction.

Tips

Rip Fence (see figure E)

The rip fence **9** enables exact cuts along a workpiece edge and cutting strips of the same size.

Sawing with an Auxiliary Guide (see figure F)

For cutting large workpieces or straight edges:

Clamp a board or strip tightly to the work as an auxiliary guide using screw clamps. Guide the footplate along the auxiliary guide.

Maintenance and Cleaning

■ Before any work on the tool itself, pull the power plug.

■ For safe and proper working, always keep the power tool and its ventilation slots clean.

The retracting blade guard must always be able to move freely and retract automatically. Therefore, always keep the area around the retracting blade guard clean. Remove dust and chips by blowing out with compressed air or with a brush.

Saw blades that are not coated can be protected against corrosion with a thin coat of acid-free oil. Before use, the oil must be removed again; otherwise the wood will become soiled.

Resin and glue residue on the saw blade leads to poor cuts. Therefore, clean the saw blade immediately after use.

If the machine should fail, repair should be carried out by an authorized after-sales service agent for Bosch power tools. The mains cable is fitted with a special safety connection. The mains cable may be replaced only by an authorized after-sales service agent for Bosch power tools.

In all correspondence and spare parts orders, please always include the 10-digit article number given on the nameplate of the power tool.

Disposal

Power tools, accessories and packaging should be sorted for environmental-friendly recycling.

Service

Exploded views and information on spare parts can be found under:
www.bosch-pt.com

In case of a claim, repair or purchase of replacement parts or in case of queries or other problems, please contact your local dealer or Bosch representative.

People's Republic of China

Website: www.bosch-pt.com.cn

China Mainland
Bosch Power Tools (China) Co., Ltd.
567, Bin Kang Road
Bin Jiang District 310052
Hangzhou, P.R.China

Service Hotline: 800 8 20 84 84
✆ ..... +86 571 87 77 43 38
Fax ..... +86 571 87 77 45 02

HK and Macau Special Administrative Regions
Room 1210, Shun Tak Centre, West-Tower,
168 – 200 Connaught Road, Central Hong Kong

Customer Service Hotline: ..... +852 25 89 15 61
Fax ..... +852 25 48 79 14

E-Mail: bosch@melchers.com.hk

Subject to change

针对电动工具的一般性警告提示

⚠ 警告 **阅读所有的警告提示和指示。** 如未确实遵循警告提示和指示，可能导致电击、火灾并且 / 或其他的严重伤害。

妥善保存所有的警告提示和指示，以便日后查阅。

在警告提示和指示中使用的 " 电动工具 " 是指必须连接电源的电动工具（配备电线）和使用蓄电池的电动工具（无电线）。

1) 工作场所的安全规章

a) **工作场所必须保持乾净并且照明要充足。** 杂乱或昏暗的工作场所容易导致意外。

b) **不可在有爆炸危险的环境下操作本电动工具。有爆炸危险的环境是指充斥了易燃液体、瓦斯或尘埃的工作场所。** 操作机器时会产生火花，火花容易引燃尘埃或易燃蒸汽。

c) **操作机器时不可让儿童或旁观者靠近工作场所。** 工作时如果因为第三者的干扰而分散注意力可能导致操作失控。

2) 使用电器用品的安全指示

a) **使用的插座必须能够配合电动工具的插头。切勿擅自更改插头。转接插头不可以和接了地线的电动工具一起使用。** 使用机器出厂时的原装插头和合适的插座可以降低遭受电击的危险。

b) **避免让身体碰触接地的物体，例如水管、散热器、电炉和冰箱等。** 如果您的身体接地了，非常容易遭受电击。

c) **机器必须远离雨水或湿气。** 如果让水渗入电动工具中，会提高操作者遭受电击的危险。

d) **正确地处理电线。不可以使用电线提携电动工具、悬挂电动工具或者以抽拉电线的方式拔出插头。电线必须远离高温、油垢、锋利的边缘或转动中的机件。** 电线如果受损或缠绕在一起，会提高操作者遭受电击的危险。

e) **如果在户外使用电动工具，只能使用合适的户外专用延长线。** 使用合格的户外专用延长线，可降低操作者遭受电击的危险。

f) **如果无法避免的，必须在潮湿的环境中使用本电动工具，得使用剩馀电流保护开关。** 使用剩馀电流保护开关可以预防遭受电击。

3) 针对操作者的安全指示

a) **工作时务必要全神贯注，不但要保持头脑清醒更要理性地操作电动工具。疲惫、喝酒或服用毒品、兴奋剂、药物之后，切勿操作电动工具。** 使用电动工具时只要稍微分心便可能发生后果严重的意外。

b) **穿好您个人的防护装备并戴上护目镜。** 根据所使用的电动工具穿戴合适的防护装备，例如防尘面罩、止滑工作鞋、安全帽或耳罩，可降低工作伤害的发生机率。

c) **避免意外启动机器。插上插头并且 / 或安装蓄电池之前，提起或搬运机器之前，务必先检查电动工具是否处在关闭状况。** 如果您在提携电动工具时，手指碰触了开关，或著在连接电源时，起停开关仍然设定在开动位置，都可能造成极严重的意外。

d) **开动电动工具之前必须拆除仍然插在机器上的调整工具 / 或螺丝扳手。** 如果机器已经开始转动 , 而机器上仍然插著调整工具，很容易伤害使用者。

e) **避免错误的持机姿势。操作机器时要确保立足稳固，并要随时保持平衡。** 正确的操作姿势能够帮助您在突发状况下及时控制住电动工具。

f) **穿著合适的工作服。工作时不可以穿太宽松的衣服，也不可以戴首饰。不可以让头发、衣服和手套接触机器上的转动机件。** 宽松的衣物、长发或首饰容易被卷入转动的机件中。

g) **如果能够在机器上安装吸尘装置、集尘装备，务必按照指示安装此类辅助工具，并且正确地操作该装置。** 使用吸尘装备可以防止工作尘危害人体。

4) 小心地使用和处理电动工具

a) **勿让机器承载过重的负荷。根据工作性质选择适合的电动工具。** 正确地选用电动工具可以在规定的功率范围中，更有效率更安全的操作机器。

b) **勿使用开关故障的电动工具。** 如果无法正常操控起停开关，极容易在操作机器时产生意外。尽快将故障的机器送修。

c) **在调整机器设定、更换零件或不使用机器时，都必须先从插座上拔出插头并且 / 或取出蓄电池。** 这个预防措施可以避免不小心开动电动工具。

d) **不使用电动工具时，必须把机器存放在儿童无法取得之处。勿让不熟悉机器操作方法及未阅读本说明书的人使用本机器。**让经验不足的人操作电动工具容易发生意外。

e) **细心地保养、维护电动工具。检查机器上的转动零件是否运作正常，并确定是否有零件断裂或损坏。故障的机件会影响电动工具的运作功能。使用机器之前务必先更换或修理故障的机件。**若未彻底执行机器的维护工作容易导致工作意外。

f) **切割工具必须保持锋利、清洁。**经过细心保养而且刀刃锋利的切割工具不易被夹住，而且较容易操作。

g) **遵照这些指示使用电动工具、配件及安装在机器上的工具。另外也必须注意有关机器操作方式及机器适用范围的解说。**如果使用电动工具执行不符合该机器性能的工作，极容易发生意外。

5) 小心地使用和处理充电式机器

a) **只能使用制造商推荐的充电器为蓄电池充电。**不可以使用针对某些特定蓄电池的充电器，为其他的蓄电池充电，可能引起火灾。

b) **务必使用电动工具的专用蓄电池。**使用了不合适的蓄电池可能发生工作意外K引起火灾。

c) **不使用的蓄电池必须远离回形针、硬币、钥匙、钉子、螺丝或其他的金属物体。上述物体可能连接蓄电池上的触点引起短路。**蓄电池的两个触点如果发生短路，可能引起火灾。

d) **如果使用不当可能从蓄电池渗出液体。避免接触此类流动物体。如果不小心触摸了，马上用水冲洗。如果上述液体侵入眼睛必须即刻就医。**从蓄电池流出的液体会刺激或灼伤皮肤。

6) 检修服务

a) **只能将电动工具交给合格的专业人员检修。检修时只能换装原厂零、配件。**唯有如此才能确保机器的安全性能。

针对您的工作安全

必须阅读所有说明。未确实遵守以下各指示，容易遭受电击，引起火灾或造成严重伤害。

此外还要遵循，编印在小册子上的一般性的安全指示。这个编印了安全规定的小册子，也可能夹在操作指南中。

请妥善保存本使用指南。

- **工作时必须以双手握紧电动工具，并且要确保立足稳固。**使用双手操作电动工具比较稳定、安全。
- **固定好工件。**使用固定装置或老虎钳能够更安全、稳固地夹牢工件。
- **勿加工含石棉的物料。**石棉是致癌物质。
- **如果操作机器时会产生有害健康、易燃或可能引爆的废尘，务必采取适当的防护措施**。例如针对某些可能导致癌症的尘埃，务必戴上防尘面具，如果能够在机器上安装吸尘器，也要加装此机件。
- **必须等待电动工具完全静止后，才可以放下机器。**安装在机器上的工具可能被堵住，进而无法控制电动工具。
- **勿使用电线受损的机器。如果电源电线在工作中损坏了或断裂了，千万不可触摸电线，必须马上拔出插头。**使用损坏的电线容易触电。
- **在户外使用机器时必须安装剩馀电流（FI）防护开关。**
- **危险：不可以把手摆在锯割范围内，也不可以让手接触锯片。操作机器时一只手要握紧辅助手柄或放在发动机壳上。**如果使用双手握持圆锯，便不会被锯片割伤。
- **不可以把手放在工件的下面。**防护罩无法保护摆在工件下面的手。
- **根据工件的厚度设定锯深。**不可以让锯齿完全突出於工件之外。
- **不可以用手握持待锯割的工件，也不可以把工件放在腿上。工件必须固定在稳固的平台上。**固定好工件之后，不仅可以防止身体意外接触刀片，并且可以降低锯片被卡住或操纵失控的情况。
- **工作时，如果安装在机器上的刀具可能锯断隐藏的电线，或机器本身的电源线，那麼一定要握著绝缘手柄操作电动工具。**电动工具如果接触了带电的电线，机器上的金属部件会导电并令操作者触电。

- **纵割时必须使用档块或直角导引。**如此不仅可以增加锯割的准确度，而且可以降低锯片被卡住的机会。
- **必须使用具备了正确尺寸和安装孔（星形或圆形）的锯片。**锯片尺寸如果和圆锯的安装部件不合，开动机器后锯片会偏心运转，甚至会发生失控的状况。
- **切勿使用已经损坏或不合适的锯片垫圈、锯片螺钉。**锯片垫圈和锯片螺钉，都是针对个别圆锯而特别设计的，以便能够提高工作效率和确保操作安全。
- **反弹的原因和如何避免反弹：**
  – 反弹是一种突然的反应，它的导致原因为:
  锯片被钩住了、夹住了或者锯片的安装方式错误。反弹时，失控的机器会从工件中滑出，并弹向操作者。
  – 如果锯片被钩住或夹在自动闭合的锯缝中，锯片会突然停止转动，而发动机的强大马力会把机器弹向操作者。
  – 如果锯片在锯缝中扭曲了或者未安装正确，可能导致锯片的锯齿卡在工件表面上，更进而把整个锯片从锯缝中拔出，并促使圆锯朝著操作者的方向弹跳。
  未按照规定使用机器或操作不当，都会导致圆锯反弹。如果确实遵循以下各安全措施则可避免反弹。
- **使用双手握紧圆锯，持机的姿势必须能够抵挡住机器强大的反弹力道。操作机器时要站在机器的侧面，千万不可以让锯片和身体位在同一直线上。**反弹时圆锯会向后冲撞，但操作者如果已经采取了适当的防范措施，则可以及时控制住弹力。
- **如果锯片被夹住了或在工作中途断裂了，马上关闭电锯，并静待插在工件中的锯片完全停止转动后再将其提出。只要锯片仍然继续转动，则不可尝试著从工件中拔出电锯，或向后抽拉电锯，否则可能导致机器反弹。**找出引发锯片被夹住的原因，并设法将其排除。
- **重新开动插在工件中的电锯时，必须先把锯片摆放在锯缝的中心，并检查是否仍有锯齿钩住工件。**如果锯片仍被夹住，重新开动机器后，锯片可能从工件中滑出或者引起机器反弹。
- **固定好大的板子，以防止因为锯片被夹住而引起反弹。**大的板子重量大容易向下弯曲，因此要在板子的两侧安排支撑，一个支撑放在锯线的附近，一个放在平板的边缘。
- **不可使用已经变钝或受损的锯片。**锯齿如果已经变钝或位置不正确，容易因为锯缝过窄而提高锯割时的磨擦，不仅锯片易被夹住而且也会造成反弹。
- **锯割之前必须收紧锯深调整杆和锯角调整杆。**如果锯割时设定好的锯深和锯角突然改变了，可能导致锯片被夹住并且引起反弹。
- **在墙壁和隐蔽处进行潜锯时必须特别小心。**潜入工件中的锯片可能被隐藏的物品夹住并引起反弹。
- **使用机器之前先检查下防护罩是否能正确关闭。切勿使用下防护罩无法自由移动、无法马上关闭的机器。千万不可以固定被打开的下防护罩。**如果不小心让电锯掉落地面，下防护罩可能因为碰撞而弯曲变形。使用推杆打开防护罩，检查防护罩是否能自由移动。在任何锯割角度和锯割深度，防护罩都不能和锯片或其它的机件产生摩擦。
- **检查下防护罩的弹簧是否运作正常。如果下防护罩和弹簧的功能失常，则必须在使用之前把电锯送给专业人员维修。**损坏的零件和残留在防护罩上的树脂或锯屑，都会减缓下防护罩的反应速度。
- **只有进行特别的锯割过程时，例如潜锯和复合式锯法，才可以用手推开下防护罩。使用推柄打开下防护罩，当锯片咬住工件，便要马上放开下防护罩。**在其它的锯割过程，都应该让下防护罩自动开、关。
- **确定下防护罩已经完全遮盖住锯片后，再把圆锯放在工作台或地板上。**如果防护罩未关闭而且锯片仍继续转动，电锯则会沿这锯线滑动，并割坏所有与它接触的物品。请注意关机后锯片的续转时间。
- **使用能够配合锯片的开缝刀。**开缝刀必须比锯片的刀身厚，但是要比锯齿的宽度窄。
- **根据使用说明书上的描述校正开缝刀。**使用了厚度不合的开缝刀，或者开缝刀的位置错误、校正不准，都可能造成开缝刀无法正确地抵抗反击。
- **务必使用开缝刀，进行潜锯时例外。**潜锯之后得再度装回开缝刀。开缝刀会阻碍潜锯作业，并且可能造成机器反击。
- **位在锯缝中的开缝刀才能够发挥应有的功效。**如果锯缝过短，开缝刀则无法抑制反击。
- **不可以使用弯曲的开缝刀。**任何细微的差错，都会延缓防护罩的闭合。
- **勿将手掌放入刨屑排口中。**伸入刨屑排口中的手容易被转动的机件割伤。

- **不可以仰头操作机器。**因为采用这种工作姿势无法正确控制电动工具。
- **以合适之探测器侦查作业范围中是否有隐埋之线路、管道，必要时须向当地的建设单位请求支援。**
  工作时如果凿穿了电缆线会导致火灾并遭受电击。损坏了瓦斯管会引起爆炸。割断了水管不仅会造成财物损失，操作机器者也可能因此触电。
- **本电动工具不适合固定式操作。**本机器不能够固定在锯台上使用。
- **不可以使用高速钢 (HSS) 制造的锯片。**此类锯片容易折断。

机器规格

手提圆锯		**GKS 190 PROFESSIONAL**
物品代码		3 601 E23 Y..
输入功率	[瓦]	1 050
无负载转速	[次 / 分]	5 000
开缝刀厚度，最大	[毫米]	2,0
在 90 度角的最大割锯深度	[毫米]	65
在 45 度角的最大割锯深度	[毫米]	44
心轴锁定功能		●
底板	[毫米]	138 x 305
重量符合欧洲议会技术评定联盟 (EPTA) 2003 年 1 月议程中提出的规定	[千克]	4,5
绝缘等级		□ / II
锯片直径（最大）	[毫米]	190
锯片直径（最小）	[毫米]	185
锯片体厚度，最大	[毫米]	1,6
锯齿厚度 / 锯齿宽度，最大	[毫米]	2,5
锯齿厚度 / 锯齿宽度，最小	[毫米]	2,2
安装孔	[毫米]	20

务必认清电动工具铭牌上的物品代码，同一机器可能具备不同的物品名称。

本资料乃针对 220/230 (V) 伏特的标称电压，不适用於低电压地区，以及有特殊用电规定的国家。

机件

机件的编号和机器详解图上的编号一致。

阅读使用说明书时，请翻开印有机件解说图的折叠页，以便随时查阅。

1 起停开关
2 起停开关的接通闭锁装置
3 主轴锁定键
4 锯割角度尺
5 平行导引上的蝶形螺丝
6 设定割角的蝶翼螺母
7 锯割记号 45 度角
8 锯割记号 0 度角
9 平行导板
10 悬摆防护罩
11 底盘
12 开缝刀
13 悬摆防护罩的调整杆
14 锯屑排口
15 防护罩
16 传动轴
17 固定法兰
18 圆锯锯片*
19 固定凸缘
20 附带垫片的夹紧螺丝
21 六角扳手
22 辅助把手*
23 辅助把手的固定螺丝*
24 设定锯深的蝶翼旋转螺丝
25 设定锯角的蝶翼螺丝
26 开缝刀固定螺丝
27 弓形夹钳组**

* **一般情况下交付的货品，不一定附有图示或说文中提及的附件。**

** 可在一般市面上购得（不包含於供货范围中）

正确地使用机器

本机器适合在稳固的工作平台上锯割木材。可进行纵向、横向的直线锯割或斜角锯割。斜角锯割的最大锯角为 45 度。

正式操作之前

■ 对机器作任何换修工作之前，一定要先拔出插头。

安装辅助手柄（参考插图 **B**）

使用螺丝 **23** 把辅助手柄 **22** 固定在防护罩 **15** 上。

检查开缝刀的设定（参考插图 **D**）

设定时必须把机器调整在最低锯深上，并且参考 " 调整锯深 " 上的描述进行。

最好以防护罩朝下的方式侧放机器。

放松螺丝 **26**，调整好开缝刀 **12**，并再度拧紧螺丝。注意插图上提供的数据值。

拆卸 / 安装开缝刀

拆卸开缝刀 **12** 时先转出螺丝 **26**，接著取出开缝刀。

安装开缝刀 **12**，先装好开缝刀再使用螺丝 **26** 固定。根据上文的描述检查是否已经正确地安装好开缝刀。

调整锯深（参考插图 **C**）

■ 对机器作任何换修工作之前，一定要先拔出插头。

☞ 为了确保最佳的锯割效果，突出於工件之外的锯片长度不可以超过 **3 毫米 (mm)**。

调节锯深时先放松蝶翼螺丝 **24**，接著再从底板 **11** 中提出电锯，或者把电锯降入底板中:

提高 ➡ 浅锯割

降低 ➡ 深锯割

再度收紧设定锯深的蝶翼旋转螺丝 **24**。

设定锯角

■ 对机器作任何换修工作之前，一定要先拔出插头。

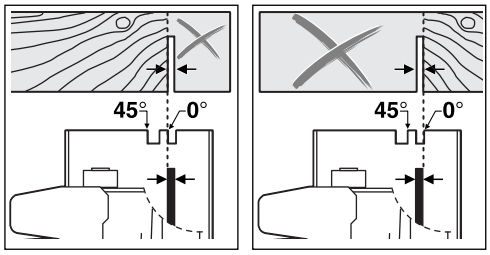
放松蝶翼螺丝 **6** 和 **25**。

最好以防护罩朝下的方式侧放机器。

翻开机器上的底板，借助锯割角度尺 **4** 设定好需要的锯角，然后再收回底板。

再度收紧蝶翼螺丝。

锯割记号



0 度角的锯割记号 (**8**)，标示了直角锯割时的锯片位置。

45 度角的锯割记号 (**7**)，标示了 45 度角锯割时的锯片位置。

这两个记号都已经包含了锯片的厚度，所以锯割时必须沿著锯线的外缘推进锯片，以免因为锯片本身的厚度，而使得锯割后的工件尺寸小於实际需要的尺寸。所以锯割时务必根据情况选择正确的记号槽缘， 0 度角的锯割记号槽 (**8**) 或 45 度角的锯割记号槽 (**7**)，详情参阅插图。

提示: 最好先进行试锯。

机器之操作

请使用正确的电压: 电源的电压必须与机器型牌上所提供的规格一致。

开动 / 关闭

开动机器之前**先**启动接通闭锁装置 **2**，**接著**再按下起停开关 **1** 并持续按住。

关闭机器，放开起停开关 **1**。

⚠ **为了安全起见，本机器的起停开关无法被锁定，因此操作机器时必须持续按住起停开关。**

更换工具（参考插图 **A**）

■ 对机器作任何换修工作之前，一定要先拔出插头。

■ **安装锯片时务必穿戴防护手套。**手如果接触锯片可能被割伤。

■ **只能使用符合本使用指南所提供的技术参数的锯片。**

■ **千万不可以使用研磨片充当刀具。**

更换锯片时最好以发动机壳朝下的方式侧放机器。

拆卸

按下主轴锁定键 **3** 并将其按牢。

■ 只在锯片停止转动后才能够按下主轴锁定键 **3**。

使用六角扳手 **21** 转出夹紧螺丝 **20**。

拿出固定凸缘 **19**。

收回悬摆防护罩 **10** 并握牢防护罩。

拆下锯片。

安装

清洁锯片和所有即将使用的固定零件。

收回悬摆防护罩 **10** 并握牢防护罩。

把锯片安装在固定法兰 **17** 上。

装上夹紧螺丝 **20** 和固定凸缘 **19**。

使用六角扳手 **21** 收紧夹紧螺丝 **20**。此时大概需要 6–9 拉紧扭力，相当於用手旋紧螺丝后再加转 $^1/_4$ 圈。

⚠ 检查固定法兰 **17** 和固定凸缘 **19** 的安装位置是否正确。

安装时请注意：锯齿的切刃朝向（即锯片上的箭头的指向）必须和防护罩上的转向箭头的指向相同。

操作指示

■ 保护锯片免受冲撞和敲击。

操作机器时推力过猛会明显减弱机器的功率，并且也会降低锯片的使用寿命。

锯割功率和锯缝的效果，基本上是由锯片的状况和锯片上锯齿的形状决定的。因此只能使用尖锐和适合工件材料的锯片。

根据木材的种类、木材的品质以及锯割的方向（顺著木纹锯割或与木纹交叉锯割）选择合适的锯片。

☞ 顺著木纹锯割红杉时会产生长的螺旋形木屑。山毛榉尘和橡树尘有害健康，因此锯割上述木材时一定要在机器上加装吸尘装备。

建议事项

平行导引（参考插图 E）

使用平行导引 **9** 便能够沿著工件边缘进行精确的锯割，或者锯割尺寸相同的木条。

使用辅助挡块锯割（参考插图 F）

分割大的工件或锯割直边时:

可以用弓形夹钳把木板或木条固定在工件上充当辅助挡块，然后再沿著辅助挡块移动底板。

维护与清洁

■ 对机器作任何换修工作之前，一定要先拔出插头。

■ 电动工具和电动工具的通风孔必须经常保持清洁。如此才能够有效而且安全地工作。

悬摆防护罩必须能够无阻地摆动，并且要能够自动关闭。因此悬摆防护罩的四周要随时保持清洁。可以使用压缩空气吹除灰尘和木屑，也可以用毛刷清除污垢。

如果锯片未上保护漆，可以在锯片上涂抹一层薄薄的无酸润滑油，以预防锯片生锈。使用机器之前必须清除油层，否则会在木材上留下污斑。

锯片如果沾了残馀的树脂和胶水会影响锯割效果。因此使用机器后必须要马上清洁锯片。

如果机器的功能故障了，必须交给经过授权的博世电动工具客户服务处修理。本机器的电源线安装了特殊的安全开关。更换电源线的工作只能交给经过授权的博世电动工具客户服务处执行。

在查询和订购附件时，务必告知标示在机器铭牌上的 10 位数物品代码。

废物处理

为了响应环保，电动工具、附件和包装材料必须详细分类，以便利资源回收。

服务

您可以从以下的网址查阅机器的分解图和备件的详细资料:

www.bosch-pt.com

有关保证，维修或更换零件事宜，请向合格的经销商查询。

中华人民共和国

网址: www.bosch-pt.com.cn

中国大陆

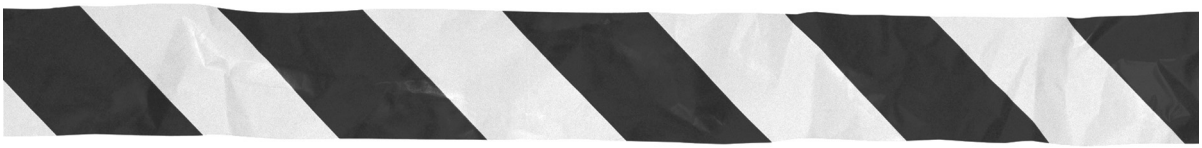
博世电动工具（中国）有限公司
中国，浙江省，杭州市
滨江区，滨康路 567 号
邮编 310052

客户服务热线: 800 8 20 84 84
电话： ..... +86 571 87 77 43 38
传真: ..... +86 571 87 77 45 02

香港上环干诺道中 168–200 号
德中心西座 1210 室
客户服务热线： ..... +852 25 89 15 61
传真: ..... +852 25 48 79 14
电邮: bosch@melchers.com.hk

保留更改权

1 609 929 H62.book Seite 1 Freitag, 20. Januar 2006 8:31 08



BOSCH

Robert Bosch GmbH
Power Tools Division
70745 Leinfelden-Echterdingen
www.bosch-pt.com

1 609 929 H62 (06.01) O / 19